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THE NASA IMPACT ON THE ECONOMIC GROWTH AND  
DEVELOPMENT OF THE CAPE KENNEDY REGION — A SUMMARY

by

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## THE NASA IMPACT ON THE ECONOMIC GROWTH AND DEVELOPMENT OF THE CAPE KENNEDY REGION -- A SUMMARY

After studying what has happened in a number of individual fields, it is now possible to assess in summary fashion the influence of the NASA program on the economic growth and development of the Cape Kennedy region as a whole in recent years. It is also feasible to summarize how the individual counties have fared in general, and to indicate at least tentatively the spatial limits within which the influence of the NASA program seems to have been most significant.

### The Cape Kennedy Region as a Whole

There can be no doubt that the NASA program has had a tremendous impact on the economic growth and development of the Cape Kennedy region as a whole in recent years. The total population of the region increased by 235,100 in the twenty-four years from 1930 to 1954, and then increased by 371,200 in just nine years from 1954 to 1963. The average annual increase in population was about the same for the region as for the state from 1930 to 1954, but it was 10.3 per cent a year for the region from 1954 to 1963 as compared with 7.0 per cent a year for the state. The increase in the region's population which has resulted from the migration of people from other areas and states has been several times as great in recent years as the change which resulted from natural increases in numbers.

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Total retail sales in the region increased somewhat less rapidly than those of the state from 1939 to 1954 and the region's share of the state's total retail sales declined gently. From 1954 to 1963 the retail sales of the region increased at the rate of 13.86 per cent a year, as compared with 9.17 per cent for the state, and the region's share of the state total increased from 11.45 per cent to 14.10 per cent. In terms of dollars, the total annual retail sales of the region increased by \$386,500,000 in the fifteen years from 1939 to 1954 and then by \$573,300,000 in the nine years from 1954 to 1963.

On the basis of incomplete data, it appears that the average annual rate of increase in the number of retail establishments has been somewhat greater for the region than for the state in recent years after having been slightly smaller from 1939 to 1954, and the region's share of the state total has increased only slightly since 1954. On the other hand, the number of paid employees in retailing has been increasing at a much higher average annual rate in the region than in the state since 1954 (13.07 per cent a year as compared with 9.86), after increasing somewhat less rapidly in the region than in the state from 1939 to 1954. The region's share of the state's total of paid employees in retailing has been increasing significantly in recent years.

The average annual increase in receipts from the selected service trades ran only about five-sixths as great for the region as for the state from 1939 to 1954, but these receipts increased at the rate of 18.13 per cent a year for the

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region as compared with 14.11 per cent for the state from 1954 to 1958. As a result the region's share of the state total has been increasing significantly in recent years. On the other hand, the average annual rate of increase in the number of establishments in the selected service trades has been about the same for the region and state both from 1939 to 1954 and since 1954, and the region's share of the state total has increased only very slightly.

From 1930 to 1950 the number of employed persons increased at an average annual rate of 3.21 per cent in the region as compared with 3.43 per cent in the state as a whole. However, the rate became 12.48 per cent a year for the region as compared with 7.03 per cent for the state from 1950 to 1960. The region had 11.21 per cent of the state's total employment in 1930, 11.22 per cent in 1940, and only 10.93 per cent in 1950. This proportion then increased rapidly to 13.12 per cent in 1960 and 14.06 per cent in 1964.

The total personal income of the region increased at an average annual rate of 13.39 per cent between 1950 and 1954, as compared with 11.48 per cent for the state as a whole. From 1954 to 1962 the rate increased to 22.01 per cent a year for the region and only to 13.75 per cent for the state. The region had 10.24 per cent of the state's total personal income in 1950 and 10.77 per cent in 1954, but its share increased to 14.16 per cent in 1962. The region's personal income per capita was 94.75 per cent of that for the state as a whole in 1950, and 94.95 per cent in 1954, but it increased sharply to 104.58 per cent in 1962.

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On the basis of these considerations it is obvious that the Cape Kennedy region has experienced a phenomenal economic growth in recent years and that this growth has been much more rapid since 1954 than in earlier years. It would be misleading and inaccurate to attribute all of this recent growth and development in the region to the NASA program, for other factors and programs stimulating to economic activity have also been in operation. However, it is my opinion that the NASA program should be regarded as mainly responsible for the rapid economic growth which has occurred in the region.

## The Individual Counties

In order to evaluate the effect of the NASA program on the individual counties in the region and to determine roughly the spatial limitations of the NASA influence, we have developed a "profile" for each county. Such a profile indicates in one chart how a particular county has been faring (and is expected to fare) in connection with all the matters which we have studied. In order to put such diverse things as population, retail sales, numbers of retail establishments, numbers of paid retail employees, receipts of the selected service trades, numbers of service establishments, total employment, and total personal income all in one chart for a given county, it has been necessary to express the county total for each item or activity as a percentage of the state total for the same item or activity.

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Study of these county profiles indicates that the influence of the NASA program has been strongest in Brevard and Orange Counties. Indian River County has improved mildly in relation to the state as a whole, and the other counties have held level or declined in relation to the state. The profile for Brevard County (Figure 1) shows clearly that all phases of economic activity studied increased relatively more rapidly in the county than in the state as a whole from 1940 to 1963, and also increased much more rapidly relative to the state under the NASA program from 1954 to 1963 than in the earlier years of the period. The great impact of the NASA program on the economic growth and development of the county is unmistakable.

The profile for Orange County does not show quite as clear cut a picture as that for Brevard County. However, most phases of economic activity studied increased relatively more rapidly in the county than in the state from 1940 to 1963 and a number of them increased more rapidly relative to the state under the NASA program from 1954 to 1963 than in the earlier years of the period. Orange County has clearly been second only to Brevard County in its economic growth relative to the state as a whole.

The general trend in economic activity in Indian River County seems to have been upward relative to activity in the State of Florida as a whole from 1940 to 1963, although there are some noteworthy exceptions to the general trend, as Figure 3 indicates. And a number of lines of economic activity increased rather rapidly in relation to state levels between 1954

FIGURE 1. - PROFILE OF BREVARD COUNTY IN RELATION TO THE STATE OF FLORIDA

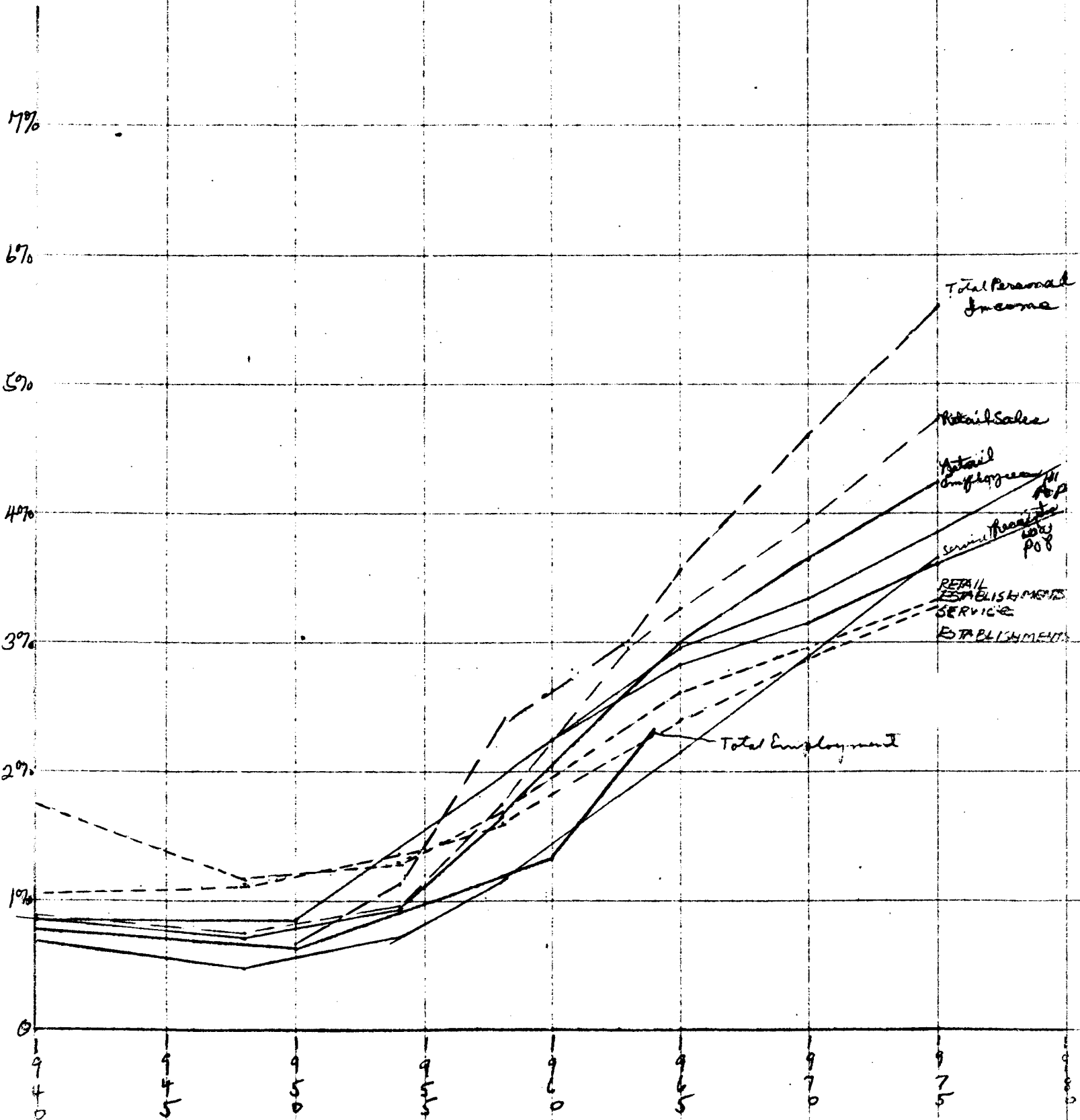


FIGURE 2.- PROFILE OF ORANGE COUNTY IN RELATION TO THE STATE OF FLORIDA

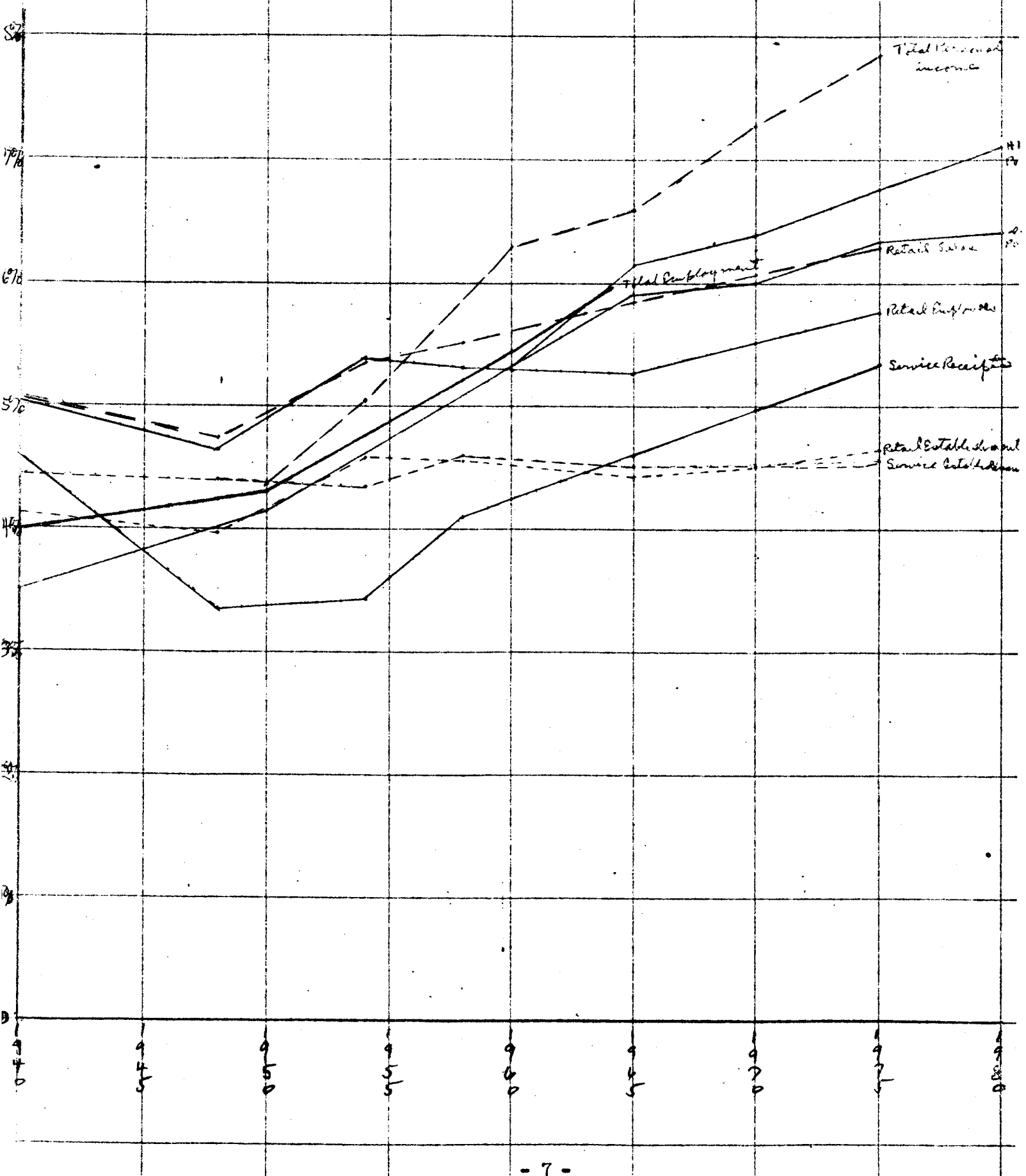
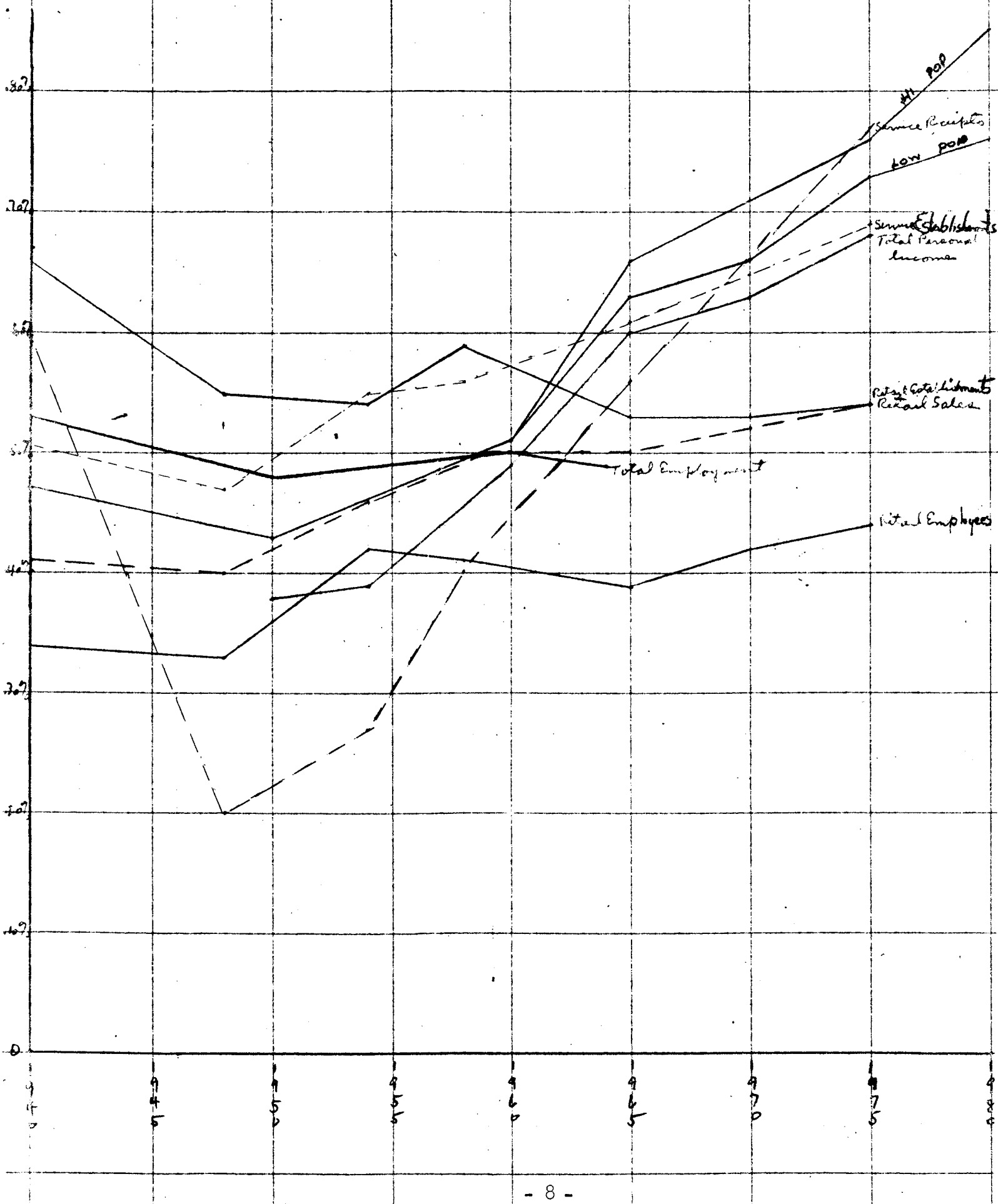




FIGURE 3. - PROFILE OF INDIAN RIVER COUNTY IN RELATION TO THE STATE OF FLORIDA



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and 1963. It should be noted, however, that the vertical scale in Figure 3 is laid out in tenths of a per cent instead of whole per cents, so that changes in activity in Indian River County are in effect magnified ten times in comparison with those which occurred in Orange and Brevard Counties. Thus, the improvements in the level of economic activity shown in Figure 3, while important and gratifying to the county, have not served to make Indian River County a very important factor in the economy of Florida.

Volusia County has clearly been the most stable county in the region in relation to the state as a whole. Its profile in Figure 4 indicates that some types of economic activity have been increasing slightly relative to the State of Florida, while others have shown a gentle decline. The fairest thing to say seems to be that the county has just about held level as a part of the state's economy. Lake County has experienced increases in retail sales and retail employees relative to state totals during the NASA period and has just about held its own relative to the state in connection with the number of retail establishments. In all other phases of economic activity studied, however, county totals have gone downward as percentages of state totals and such declines have continued under the NASA program in recent years. It does not seem reasonable to suppose that Lake County has been greatly stimulated by the development of the NASA program.

FIGURE 4 - PROFILE OF VOLUSIA COUNTY IN RELATION TO THE STATE OF FLORIDA

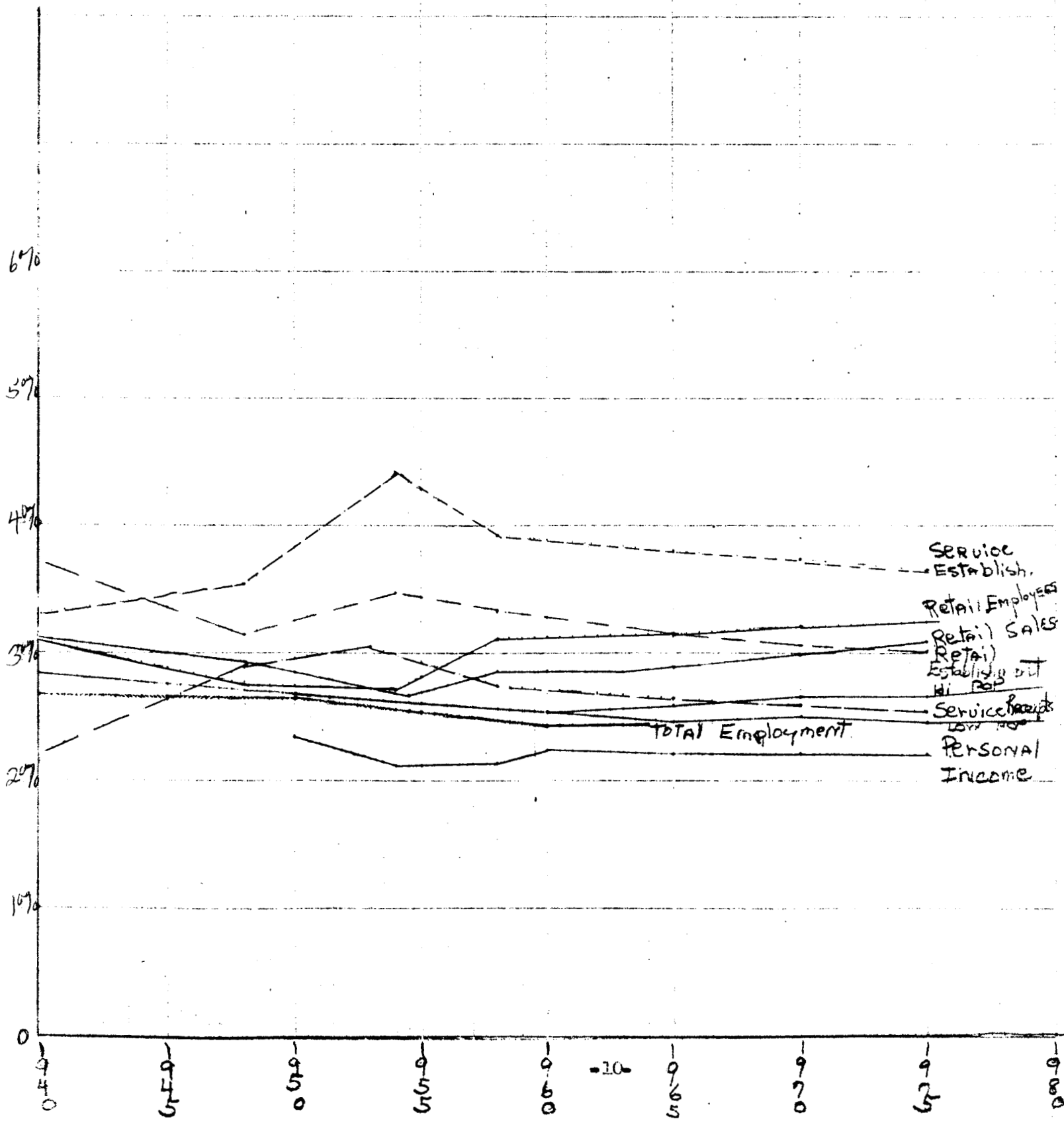
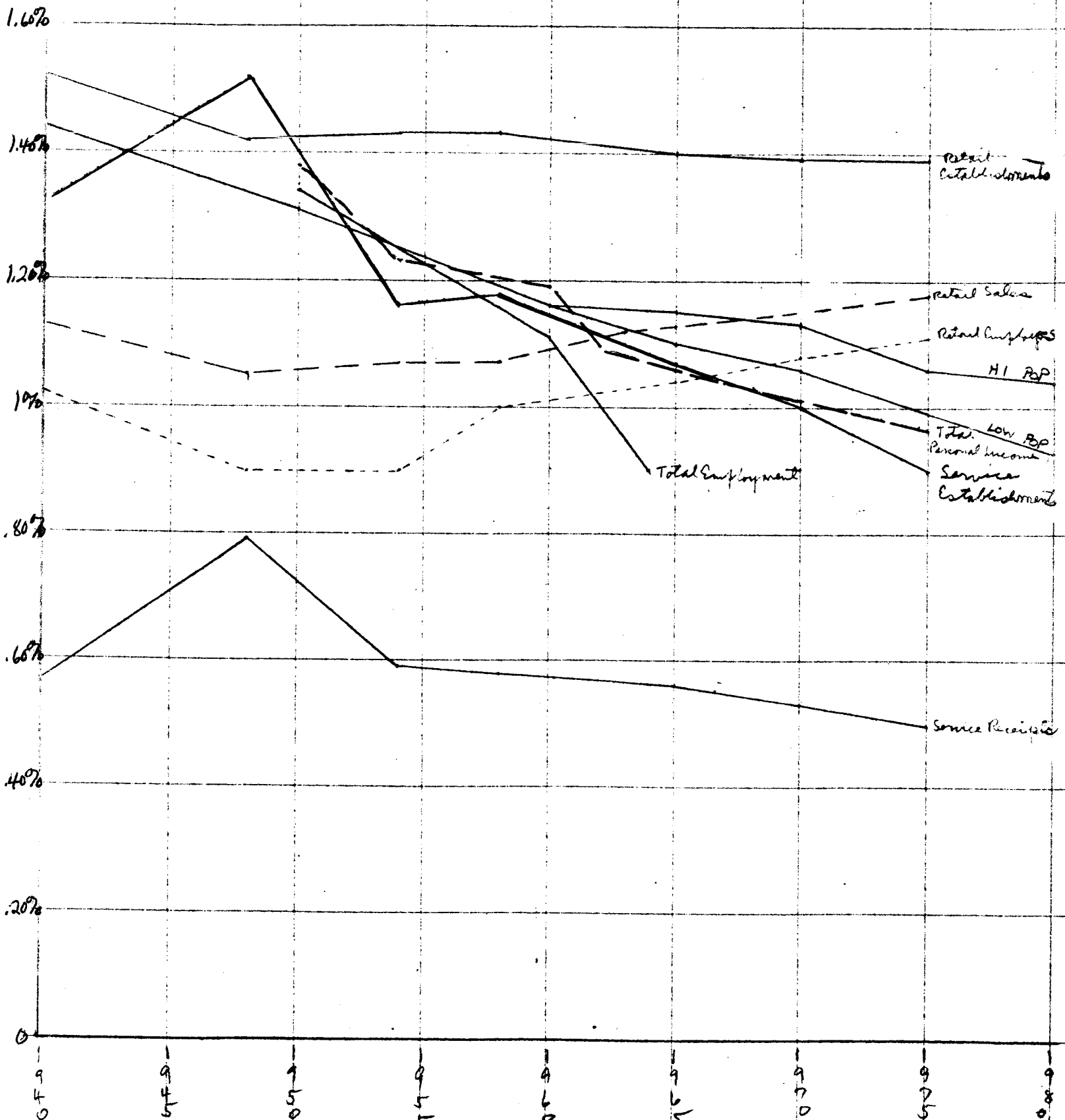


FIGURE 5.- PROFILE OF LAKE COUNTY IN RELATION TO THE STATE OF FLORIDA



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Seminole County presents a mixed picture, as Figure 6 shows. From 1940 to 1963, the county has trended downward relative to the state as a whole in practically all phases of economic activity studied. During the NASA period, the position of the county relative to the state has improved in connection with population, personal income, retail sales, and retail establishments, though not enough in most cases to get back to former levels, and the county has continued to decline in relation to the state with respect to total employment, retail employees, service receipts, and service establishments. On the whole, there is little reason to believe that Seminole County has been a leading beneficiary of the stimulating influence of the NASA program.

Osceola County seems to have been least stimulated by the NASA program. The levels of all phases of economic activity in the county declined relative to state levels in the period from 1940 to 1963, and in the recent period from 1954 to 1963 only total personal income and service receipts seem to have improved in the county in relation to the state, while other phases of economic activity continued their earlier decline.

This summary discussion of the impact of the NASA program on the economies of the individual counties in the Cape Kennedy region has been based on certain obvious assumptions. We have assumed that, if a county

FIGURE 6.—PROFILE OF SEMINOLE COUNTY IN RELATION TO THE STATE OF FLORIDA

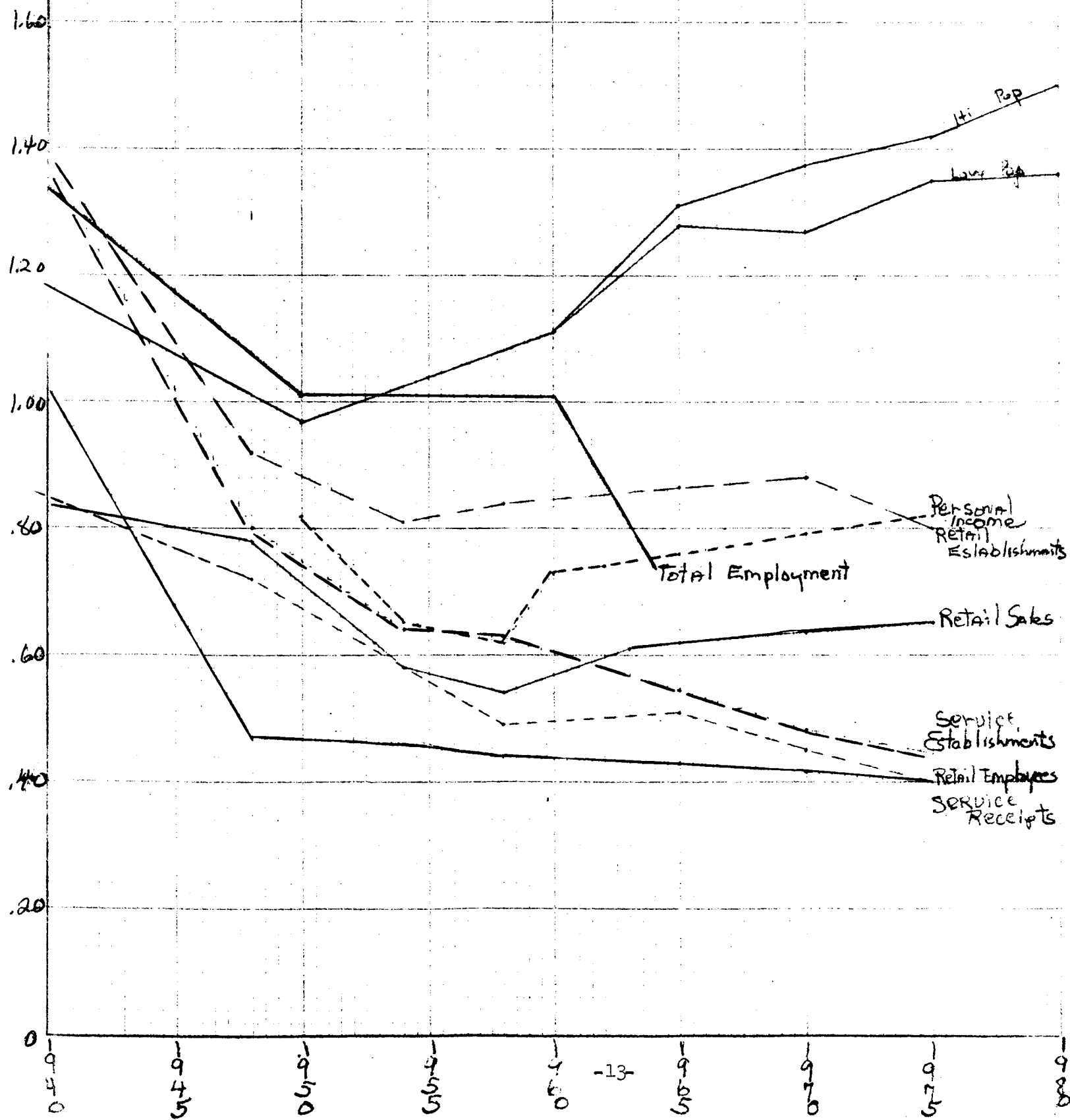
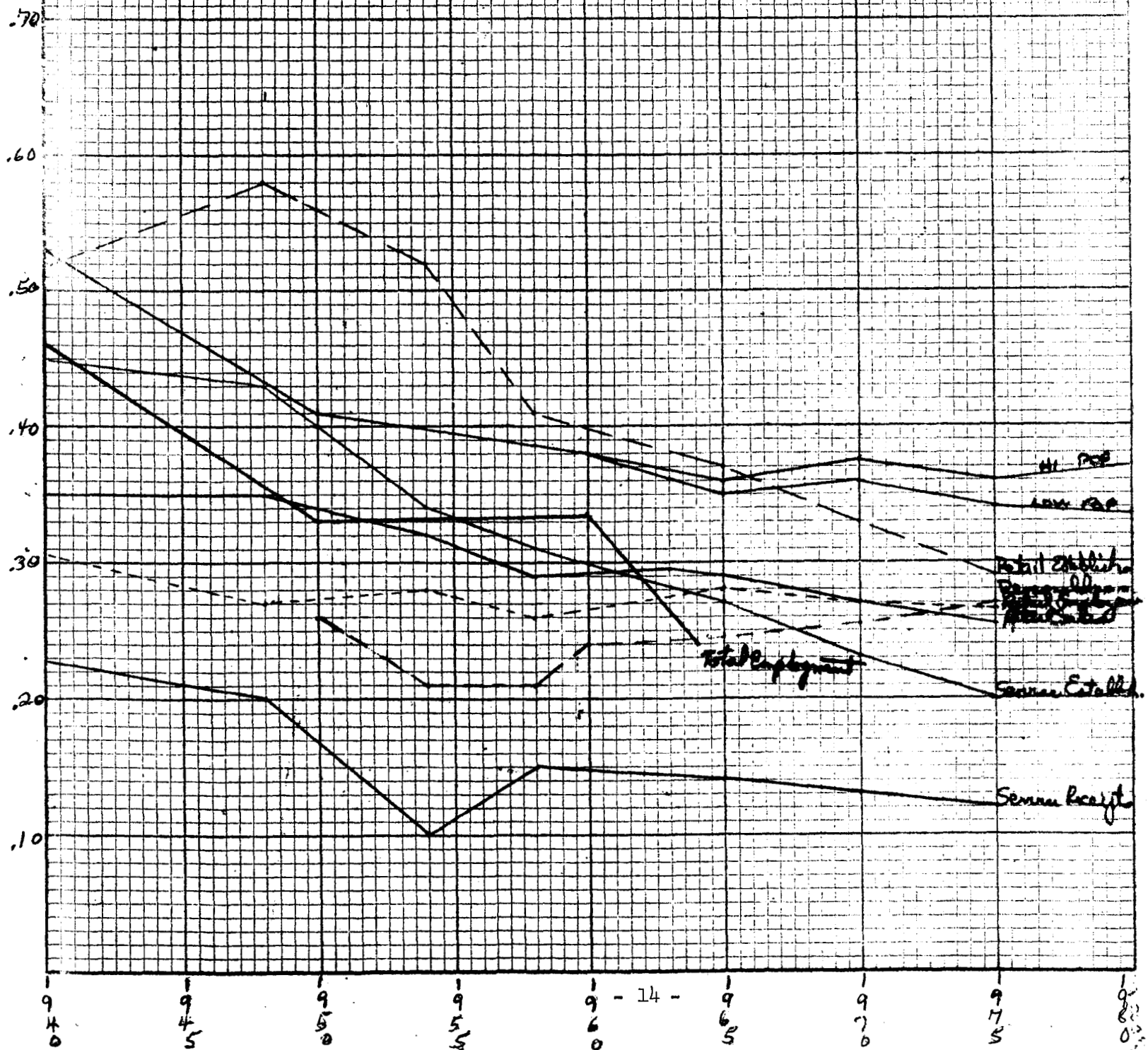


FIGURE 7 - PROFILE OF OSCEOLA COUNTY IN RELATION TO THE STATE OF FLORIDA



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has been greatly stimulated by the development of the NASA program, its levels or totals in various phases of economic activity should not only have increased absolutely but also should have increased relative to those of the State of Florida as a whole. We have assumed that, if levels of economic activity in a county were increasing at about the same rate as those of the state in the years before the NASA program got under way and continued to behave in the same way in recent years under the NASA program, the county has not been stimulated significantly by the NASA program. Finally, we have assumed that, if levels or totals of various phases of economic activity in a county were declining relative to those of the state as a whole in the pre-NASA period and in general continued to decline in the NASA period, the county has not been stimulated by the development of the NASA program.

It could be argued, of course, that a county which has actually held level with the state in connection with economic growth during the NASA period, might have experienced declines in totals in various phases of economic activity relative to those of the state if it had not been for the influence of the NASA program. It could also be argued that counties, which have shown declining totals or levels of economic activity relative to those of the state, might have experienced still greater declines if it had not been for the influence of the NASA program. Such arguments are



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potentially valid, but the things suggested are here deemed incapable of observation and measurement.

It should also be noted that all counties in the region have experienced absolute increases of various sizes in the levels or totals of practically all phases of economic activity during the NASA period. Economic growth and development in a county, even though it occurs at a slower rate than that achieved by the state as a whole, may still be a legitimate cause of great benefit and rejoicing. A county does not have to become an increasing part of the economy of the state as a whole in order for its people to become better off economically. However, we have been discussing the question of which counties appear to have been most affected by the NASA program and not the question of whether the counties have registered economic gains in recent years.

### The Projections

Projections to 1965, 1970, and 1975 (and, in the case of population, to 1980) have been made for all the economic items and activities studied. These projections were first made experimentally on the basis of a number of methods which were described in the text of various parts of the report. In all cases, the projections finally presented in the parts of this report were those which in the end seemed most sound on a logical basis. The projections cover individual counties, the Cape Kennedy region, and the State of Florida as a whole.

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Although the projections are only projections and not definite predictions, they have been made on the basis of a number of assumptions. We have assumed that:

(1) The experiences of the past, and especially those of the NASA period to date, furnish the most reliable guide to the future in the absence of strong evidence to the contrary.

(2) While individual activities may come and go, the NASA program as a whole in the Cape Kennedy region will be well maintained and even expanded somewhat in the years to come.

(3) The economy as a whole will experience only short and mild recessions, and not protracted and severe depressions, in the period covered by the projections.

(4) The purchasing power of the dollar will be relatively stable and no more than very mild inflation of prices will occur in the period covered by the projections.

A first impression of some of the projections may be that they indicate truly remarkable future levels of activity in some of the faster growing counties. However, when these projections along with past data are plotted on ratio or semi-logarithmic paper, it is to be noted that curves result which correspond fairly closely to normal growth curves. That is, they start upward rather slowly, then rise much more rapidly, and finally

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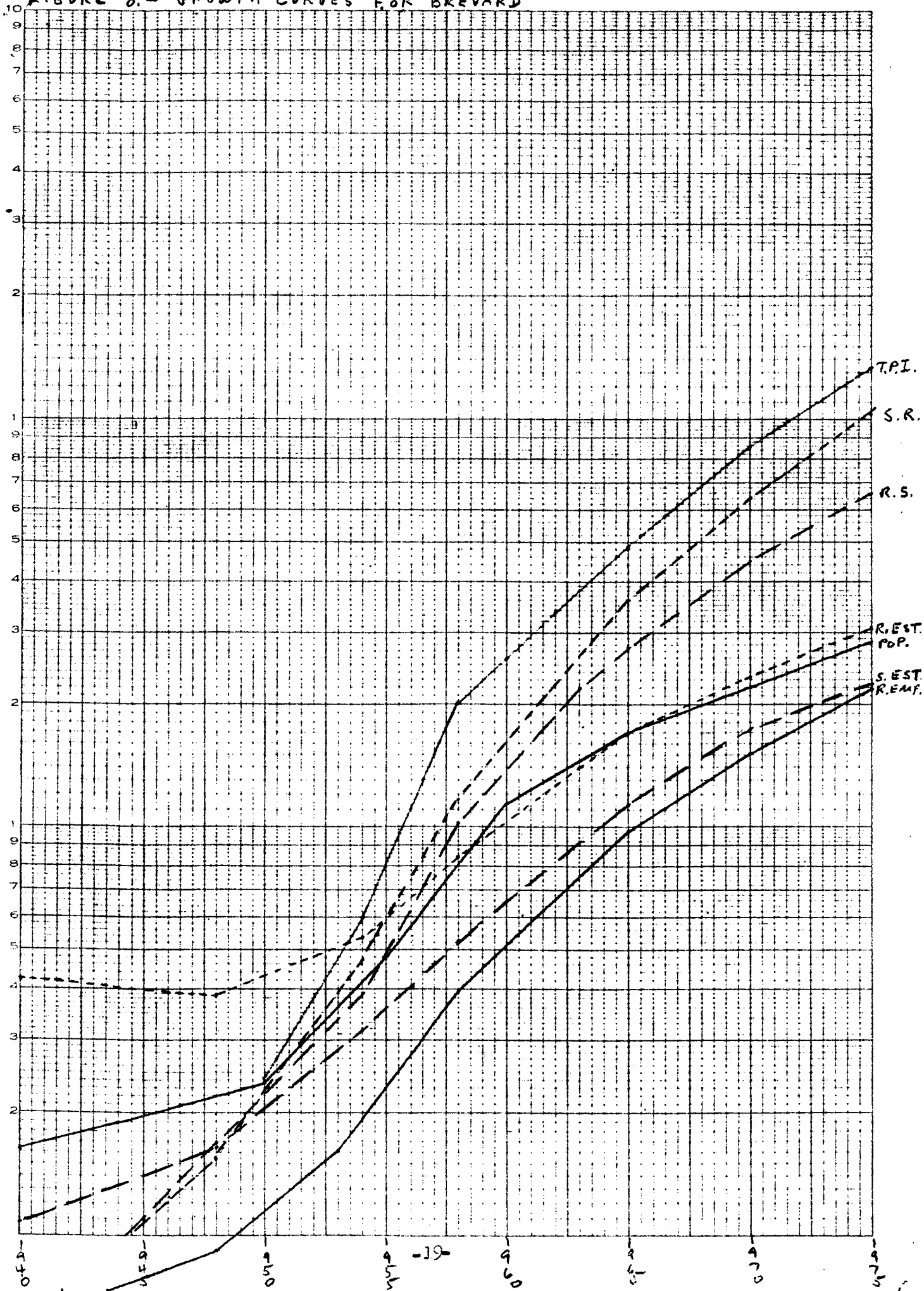
taper off to significantly slower rates of growth. These tendencies can be seen clearly in the growth curves for Brevard County, which are presented in Figure 8.<sup>1/</sup>

Finally, all of the projections in the various parts of this report should be considered as tentative. Data from the 1963 Census of Business and other data will soon be available and a number of projections may need to be revised to some extent when we make our final report, sometime before June 30, 1965.

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<sup>1/</sup> In order to make such a chart, it is obvious that the units on the vertical scale have to be changed from dollars to numbers of workers, numbers of establishments, and numbers of people as the occasion requires. Moreover, no attention should be paid to the relative levels or heights of the various curves. The only important thing is how each one moves from left to right.

FIGURE 8.- GROWTH CURVES FOR BREVARD



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